"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

20-5-11/54

AUTHOR: SHVARTS, A.S.

TITLE: Homologies of the Spaces of Closed Curves (Gomologii prostranstv zamknutykh krivykh)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol.117, Nr 5, pp.769-772 (USSR)

ABSTRACT: The author investigates the spaces of closed curves on Riemannian varieties and the connection of these spaces with closed geodesics. He calculates the homologies of the spaces of closed curves on some special varieties (in particular on spheres).
Let M be a closed Riemannian variety, $L = L_M$ the space of the closed rectifiable curves with a marked point, $P = P_M$ the space of the oriented closed rectifiable curves, $\bar{L} = \bar{L}_M$ of the non-oriented closed rectifiable curves with a marked point and $\bar{P} = \bar{P}_M$ the space of the non-oriented closed rectifiable curves. The homotopy type of the spaces L, P, $\bar{L}$, $\bar{P}$ only depends on the topological structure of M. Let T, N, $\bar{T}$, $\bar{N}$ be the subsets of the curves of the length 0 in the spaces L, P, $\bar{L}$, $\bar{P}$.

Card 1/4

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

Homologies of the Spaces of Closed Curves

Theorem: The circular connectivities of M are equal to the Betti numbers mod 2 of the space $\bar{P}$ with respect to the modulus N. The sensed circular connectivities (according to Bott [Ref.3]) are equal to the Betti numbers mod 2 of P with respect to modulus N.

Let J denote a continuous functional - the length of the curve in L,P,$\bar{L}$,$\bar{P}$. The critical points of J are the closed geodesics of M .

Theorem: The type numbers m^k of the critical set which corresponds in L or $\bar{L}$ to a nondegenerated closed geodesic of the index i are given by the formulas

$m^i = 1$, $m^{i+1} = 1$, or 0 , $m^k = 0$ for $k \neq i$, $i + 1$ (mod 2

in all cases $m^{i+1} = 1$).

Theorem: The type numbers of an s - fold non-degenerated closed geodesic g in P or $\bar{P}$ are determined by the index of g and by the indices of those geodesics, the repetition of which is g . Precisely: Let h be a simply closed geodesic, g an s-fold repetition of h, let i(d) be the index of the d-fold repetition of h, let d_p be the highest divisor of s which is not divisible by the prime number p . If i(2)-i(1) is even, then it holds for the type numbers of g :

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

Homologies of the Spaces of Closed Curves

$m_o^{i(s)} = 1$, $m_o^k = 0$ for $k \neq i(s)$; $m_p^k = 1$ for $i(d_p) + 1 \leq k \leq i(s)$, $m_p^k = 0$ for the other k . If, however, $i(2)-i(1)$ is odd, then: $m_o^k = m_p^k = 0$ for all k , if $p \neq 2$; $m_2^k = 1$ for $i(d_2)+1 \leq k \leq i(s)$; $m_2^k = 0$ for the other k .

With the aid of fiberings which arise if one makes correspond to each curve of L the point marked on it, the cohomology rings of L are calculated if M is homeomorphic to a sphere. The same fibre structure is used for the calculation of the algebra $H(L_M)$, if M is simply connected and the algebra H(L) is a tensor product of algebras with one generatrix. For the determination of the homologies of the space P and $\bar{P}$ resp. the author recommends a lemma. 1 Soviet and 4 foreign references are quoted.

Card 3/4

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

Homologies of the Spaces of Closed Curves 20-5-11/54

ASSOCIATION: State University imeni M.V.Lomonosov, Moscow (Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova)

PRESENTED: By P.S. Aleksandrov, Academician, 17 June 1957

SUBMITTED: 15 July 1957

AVAILABLE: Library of Congress

Card 4/4

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, A.S., Cand Phys-Math Sci--(diss) "Homology of ~~multitudes~~ spaces of closed curv~~atures~~es." Mos, 1958. Cover, 7 pp (Mos St U im M.V. Lomonosov. Mech-Math Faculty), 100 copies (KL,29-58,102)

-11-

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SOV/42-13-6-24/33

AUTHOR: Shvarts, A.S.

TITLE: On Geodesic Arcs on Riemannian Manifolds (O geodezicheskikh dugakh na Rimanovykh mnogoobraziyakh)

PERIODICAL: Uspekhi matematicheskikh nauk, 1958, Vol 13,Nr 6,pp 181-184 (USSR)

ABSTRACT: Theorem: In a simply connected closed Riemannian manifold M, two arbitrary points can be combined by an infinite sequence of geodesic arcs, the lengths of which increase monotonely and not quicker than in an arithmetic series.
There are 4 references, 1 of which is Soviet, 1 American, and 2 French.

SUBMITTED: July 1, 1957

Card 1/1

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

20-119-2-6/60

AUTHOR: Shvarts, A.S. (Moscow)

TITLE: The Genus of a Fibre Space (Rod rassloyennogo prostranstva)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol 119, Nr 2, pp 219-222 (USSR)

ABSTRACT: The author introduces the notion of the genus of a fibre space which generalizes the notion of the genus of a topological space with respect to a finite transformation group free of fixed points (introduced by the author in an earlier paper [Ref 1]) as well as the notion of the category of a topological space in the sense of Lyusternik - Shnirl'man. All considered fibre spaces are assumed to be locally trivial, all topological spaces are assumed to be normal. The category of the topological space B is denoted by cat B. Definition: The genus of the fibre space (E,B,F,p), i.e. $g(E,B,F,p)$ is the minimum cardinality of an open covering of the base B consisting of sets over each of which there exists a secant surface. Theorem: Let (E,B,F,p) and (E',B,F',p') be fibre spaces, f a mapping of E into E' satisfying the condition $p'f = p$. Then: $g(E',B,F',p) \leq g(E,B,F,p)$. Theorem: If the principal fibre space (E,B,G,p) can be mapped admissibly into the principal fibre space (E_1,B_1,G,p_1), then $g(E,B,G,p) \leq g(E_1,B_1,G,p_1)$.

Card 1/3

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

The Genus of a Fibre Space

Theorem: $g(E,B,F,p) \leqslant \operatorname{cat} B$

Theorem: Let (E,B,F,p) be a fibre space, the fibre of which is nonspherical in dimensions $< s$ $(\pi_0(F) = \ldots = \pi_{s-1}(F) = 0)$ and the base of which is a k-dimensional polyhedron. Then $g(E,B,F,p) < \frac{k+1}{s+1} + 1$.

Theorem: Let the base of the fibre space (E,B,F,p) be a polyhedron; let $\varphi : B \to M$ be a mapping of the base B into the m-dimensional bicompactum M. Then there exists a point $x \in M$ such that $g(p^{-1}\varphi^{-1}(x), \varphi^{-1}(x), F, p) \geqslant \frac{1}{m+1} g(E,B,F,p)$.

Theorem: Within the cohomology ring $H(B,A)$ of the base B of (E,B,F,p) let exist n elements $x_1, x_2, \ldots, x_n$ which satisfy the conditions $p^*x_1 = \ldots = p^*x_n = 0$, $x_1 x_2 \ldots x_n \neq 0$. Then $g(E,B,F,p) \geqslant n+1$.

Further three theorems contain assertions on universal principal fibre spaces of genus n, approximations of the genus of the principal fibre space and certain homotopy properties. There are 5 references, 4 of which are Soviet, and 1 American.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova (Moscow State University imeni M.V.Lomonosov)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

20-119-2-6/60

The Genus of a Fibre Space

PRESENTED: October 26, 1957, by P.S.Aleksandrov, Academician

SUBMITTED: October 24, 1957

Card 3/3

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

6(1)

AUTHORS: Fuks, D.B., and Shvarts, A.S.

TITLE: Cyclic Products of the Polyhedron and the Imbedding Problem (Tsiklicheskiye stepeni poliedra i problema vlozheniya)

SOV/20-125-2-11/64

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 2, pp 285-288 (USSR)

ABSTRACT: Let K be a polyhedron, p - prime number; $K^p = Kx...xK$ be the product of p polyhedra K; let $t:K^p \to K^p$ be a transformation with the period p defined by the formula $t(x_1, x_2, ..., x_p) = (x_2, ..., x_p, x_1)$; let $Z_p(K)$ be the p-th cyclic power of the polyhedron K, i.e. that space arising from K^p if the points equivalent with respect to the transformation t are identified; let $\pi: K^p \to Z_p(K)$ be the natural projection; let $i: K \to K^p$ be the diagonal imbedding; $i(x) = (x, ..., x)$; $i' = \pi i$. The author calculates the spectral sequence of the cohomologies with compact carriers with respect to the modulus p of the regular covering $\pi: K^p \setminus i(K) \to Z_p(K) \setminus i'(K)$. Some applications of

Card 1/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

Cyclic Products of the Polyhedron and the Imbedding Problem SOV/20-125-2-11/63

the obtained results are mentioned. The results partly overlap with those of Giorgiutti [Ref 6] and Wu Wen-tsün [Ref 1,2,3]. There are 8 references, 2 of which are French, 2 American, 1 Japanese, and 3 Chinese.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova, Voronezhskiy gosudarstvennyy universitet (Moscow State University imeni M.V.Lomonosov; Voronezh State University)

PRESENTED: November 28, 1958, by P.S.Aleksandrov, Academician

SUBMITTED: November 23, 1958

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

16(1)
SOV/20-126-4-8/62

AUTHOR: Shvarts, A.S.

TITLE: On the Genus of a Fibrous Space

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 4, pp 719-722 (USSR)

ABSTRACT: The author continues his investigations [Ref 1] and uses the same terminology. Let $\mathcal{E}=(E,B,F,p)$ be a fibrous space with the base B, fibrous F and projection $p: E\to B$; Z - cylinder of the mapping p; $\alpha: E\times I\to Z$ - natural mapping of the direct product of E and $I=[0;1]$ in Z. Let $i: E\to Z$ and $j: B\to Z$, respectively, be imbeddings defined by $i(e)=\alpha(e,1)$ and $j(b)=\alpha(p^{-1}(b),0)$, respectively. Let $f: Z\to B$ be defined by $f(\alpha(e,t))=p(e)$; let Z' be the space $Z\setminus i(E)$; $f_n: Z^n\to B^n$ (where $X^n=X\times X\times\ldots\times X$). Let $E_n=(Z^n\setminus Z'^n)\cap f_n^{-1}(d(B))$, where $d: B\to B^n$ is the diagonal imbedding; $d(b)=(b,\ldots,b)$. Let the fibre $\pi_n: E_n\to B$, $\pi_n=d^{-1}f_n$ be called $\mathcal{E}_n$. The fibre of $\mathcal{E}_n$ is $F_n=\Pi(F)^n\setminus\Pi'(F)^n$; $\Pi(F)$ - pyramid over F; $\Pi'(F)=\Pi(F)\setminus F\times 1$.
Theorem: $\mathcal{E}=(E,B,F,p)$ has a genus $\leq n$ then and only then if $\mathcal{E}_n=(E_n,B,F_n,\pi_n)$ has a secant surface.

Card 1/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

On the Genus of a Fibre Space SOV/20-126-4-8/62

Theorem: $g(\mathfrak{L}_n) = \left[\frac{1}{n}(g(\mathfrak{L})+n-1)\right]$, g - genus.

Then the author introduces the notions "length of the fibre space" and "homological genus" and their relations to the genus are treated. 8 theorems are formulated altogether. There are 5 references, 3 of which are Soviet, 1 English, and 1 American.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State University)

PRESENTED: February 27, 1959, by P.S.Aleksandrov, Academician

SUBMITTED: February 17, 1959

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, A. S., Doc Phys-Math Sci -- (diss) "A type of stratified space." Voronezh, Voronezh Univ Press, 1960. 7 pp; (Moscow State Univ im Lomonosov, Mechanics-mathematics Faculty); 150 copies, price not given; (KL, 19-60, 129)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, A.S.

Homologies of spaces of closed curves. Trudy Mosk.mat.ob-va 9:3-43 '60. (MIRA 13:9)
(Spaces, Generalized)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

80079
S/020/60/131/06/013/071

AUTHOR: Shvarts, A. S.

TITLE: Stability of Stationary Values

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 131, No. 6
pp. 1276-1278

TEXT: In the following the occurring spaces are topological, the functions are continuous and real, the smooth manifolds are of finite dimension and closed, differentiable functions are two times differentiable, fibred spaces locally trivially fibred. $\{f \leq \alpha\}$ denotes the set of the points on which f attains values $\leq \alpha$ etc.
Let the function f be defined on the space X. The number α is called critical value of f, if the embedding of the set $\{f < \alpha\}$ into $\{f \leq \alpha\}$ is no weak homotopic equivalence.
Let $p: E \to B$ be a fibred space; J a function on the basis B; $\tilde{J}$ the function on E which is defined by $\tilde{J} = Jp$.
Theorem 1: The set of the critical values of J is identical with the set of the critical values of $\tilde{J}$.
Theorem 2: Let E and B be smooth manifolds; $p: E \to B$ a diffentiable fibering with the fiber F; J a differentiable function on B; $\tilde{J} = pJ$.

Card 1/2

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S/020/60/131/06/013/071
80079

Stability of Stationary Values

Let $\tilde{J}$ have exactly s stationary values to which there correspond the sets of the stationary points with the dimensions $K_1, K_2, \ldots K_s$ ($K_1 \geq K_2 \geq \ldots \geq K_s$). Then the number of stable stationary values of $\tilde{J}$ is estimated from below by the highest t for which

$$K_1 + K_2 + \ldots + K_{t-1} < \text{cat } B + (t - 1)(\dim F - 1).$$

In the case cat B = dim B + 1 this estimation cannot be improved.
The author gives several further related results, among them the statement that a periodic functional possesses infinitely many different stationary values (see V. J. Anosov (Ref.3)).
The author thanks M. A. Krasnosel'skiy for the interest in the paper.
There are 3 Soviet references.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State University)

PRESENTED: December 21, 1959, by P. S. Aleksandrov, Academician

SUBMITTED: December 11, 1959

Card 2/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, A.S.

Types of stratified space. Trudy Mosk. mat. ob-va 10:217-272 '61. (MIRA 14:9)

(Topology)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, A.S.

Homotopy dualism for a space involving a group of operators. Dokl.AN SSSR 136 no.1:43-46 Ja '61. (MIRA 14:5)

1. Voronezhskiy gosudarstvennyy universitet. Predstavleno akademikom P.S.Aleksandrovym.
(Homotopy theory) (Topology)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, A.S.

Some notions connected with the concept of the genus of a fibrous space. Dokl. AN SSSR 136 no.2:301-303 '61. (MIRA 14:1)

1. Voronezhskiy gosudarstvennyy universitet. Predstavleno akademikom P.S. Aleksandrovym.

(Spaces, Generalized)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, A.S.

Homotopic theory of strati ied spaces. Dokl. AN SSSR 141 no.1:51-54 [illegible] '61. (MIRA 17:11)

1. Voronezhskiy gosudarstvennyy universitet. Predstavlono akademikom P.S. Aleksandrovym.
(Geometry, Algebraic)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

FUKS, D.B.; SHVARTS, A.S.

Homotopy theory of functors in the category of topological spaces. Dokl. AN SSSR 143 no.3:543-546 Mr '62. (MIRA 15:3)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova i Voronezhskiy gosudarstvennyy universitet. Predstavleno akademikom P.S.Aleksandrovym.

(Homotopy theory)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

S/020/63/148/002/012/037
B112/B101

AUTHOR: Shvarts, A. S.

TITLE: Duality of functors

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 2, 1963, 288-291

TEXT: This is a study of functors in a comprehensive class of categories (Abelian groups, topological spaces, Banach spaces, sets, semiordered sets, and structures). The set of morphisms of an object X into an object Y is denoted Hom(X,Y). $\{R_\lambda\}$ denotes the spectrum of a certain category $\mathcal{U}$ if a set of morphisms $\Pi_\lambda^{\lambda'} \subset \mathrm{Hom}(R_\lambda, R_{\lambda'})$ exists such that $\Pi_{\lambda'}^{\lambda''} \cdot \Pi_\lambda^{\lambda'} \subset \Pi_\lambda^{\lambda''}$. $R = \varinjlim R_\lambda$ means that a map $\varphi: R \to T$ exists for a given map $\pi_\lambda: R_\lambda \to R$, where $\pi_{\lambda'} \Pi_\lambda^{\lambda'} = \pi_\lambda$ and for every map $\tau_\lambda: R_\lambda \to T$, where $\tau_{\lambda'} \Pi_\lambda^{\lambda'} = \tau_\lambda$, such that $\tau_\lambda = \varphi \pi_\lambda$. The map $A \to \tilde{A}$ associates a set $\tilde{A}$ as concretum with an object A of the category $\mathcal{K}$. The functor H(X,Y) is contravariant with

Card 1/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

respect to X and fulfills the condition $\widetilde{H(X,Y)} = \mathrm{Hom}(X,Y)$. $X \otimes Y = Y \otimes X$ is the functor for which $H(X \otimes Y,Z) = H(X,H(Y,Z))$ holds. Furthermore, $\mathfrak{Q}_A(X) = H(A,X)$ and $\Sigma_A(X) = A \otimes X$. The functor G is dual to the functor F, G = DF, if $G(A) = H(F, \Sigma_A)$ and $G(\varphi) = H(1,\hat{\varphi})$, where $\varphi \in \mathrm{Hom}(A,B)$ and $\hat{\varphi} : \Sigma_A \longrightarrow \Sigma_B$, are induced by the morphism φ. For a fixed element J, $H(X,J)$ is designated by $\bar{X}$. Theorem 1: If J is a cointegral object, then the morphism $\lambda_A : DF(A) \to \overline{F(\bar{A})}$ is a monomorphism for every object A. Theorem 2: If $\pi_\lambda : R_\lambda \to R$ maps the spectrum $\{R_\lambda\}$ of the category $\mathcal{U}$ into the object R, and if $\widetilde{R} = \varinjlim \widetilde{R}_\lambda$, then $R = \varinjlim R$.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State University)

PRESENTED: July 12, 1962, by P.S. Aleksandrov, Academician

SUBMITTED: July 9, 1962

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, A.S.

Kinds of stratified space. Trudy Mosk. mat. ob-va 11: 99-126 '62. (MIRA 15:10)

(Topology)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, A.S.

Duality of functors. Dokl. AN SSSR 148 no.2:288-291 Ja '63.
(MIRA 16:2)

1. Voronezhskiy gosudarstvennyy universitet. Predstavleno akademikom P.S. Aleksandrovym.
(Aggregates)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, A.S.

Functors in categories of Banach spaces. Dokl.AN SSSR 149 no.1:44-47 Mr '63. (MIRA 16:2)

1. Predstavleno akademikom P.S.Aleksandrovym.
(Banach spaces) (Conformal mapping)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

MITYAGIN, B.S.; SHVARTS, A.S.

Functors in categories of Banach spaces. Usp.mat.nauk 19 no 2:
65-130 Mr-Ap '64. (MIRA 17:6)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

L 9017-65 EWT(d)/T Pg-4 IJP(c)

ACCESSION NR: AR4043051 S/0044/64/000/006/V013/V013

SOURCE: Ref. zh. Matematika, Abs. 6V65

B

AUTHOR: Levin, A. Yu., Shvarts, A. S.

TITLE: A model for random search

CITED SOURCE: Tr. Seminara po funkts. analizu. Voronezhsk. un-t, vy*p. 7, 1963, 67-69

TOPIC TAGS: probable new approximation method, random search, geometric progression, random search model

TRANSLATION: The paper presents the solution of an interesting problem which the authors examine as a probable analogue of several approximation methods and which could also find a number of other application. Let M_0 be some convex body in a n-measuring space, x a point random ply projected below M_0. In M_0 a point x_0 is selected at random, through which a plane is passed of random inclination. Then the same procedure is repeated with the part of M_0 lying on the same side of the plane as x, etc. As a result, a succession of convex bodies M_0, M_1, M_2....which

Card 1/3

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

cluster around the point x appears. The authors prove that if $n \to \infty$ the volume of the bodies M_n will decline in a geometric progression, with the denominator equal to $e^{-\frac{1}{2}}$. This follows from the fact that under the assumed conditions the random values $-\ln \frac{\text{mes } M_n}{\text{mes } M_{n-1}}$ are independent in the aggregate and distributed according to the exponential law with a mathematical expectation equal to $\frac{1}{2}$.
Annotation of the reviewer. 1. The result of the paper is not valid, because of the following more general model for the search. Let

$$n \geq 0 \ \{\mathfrak{R}_\alpha^{(n)}\}$$

be the family of sets to be measured, ordered according to the inclusion operation; the following applies to all

$$x \in M_0 \ x \in \bigcup_{x \in \mathfrak{R}_\alpha^n} \mathfrak{R}_\alpha^{(n)}.$$

Then M_n is defined that that one of the sets

$$M_{n-1} \bigcap \bigcap_{x_{n-1} \in \mathfrak{R}_\alpha^{(n-1)}} \mathfrak{R}_\alpha^{(n-1)}, \quad M_{n-1} \setminus \bigcup_{x_{n-1} \in \mathfrak{R}_\alpha^{(n-1)}} \mathfrak{R}_\alpha^{(n-1)},$$

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

L 9017-65
ACCESSION NR: AR4043051

which contains x. 2.- Several points M x M_0 may be the centers of volume M_n with a velocity larger than the mean indicated velocity. Thus if $M_0 = (0,1)$, $x = 0$, then

$$P\left\{\frac{\text{mes } M_n}{\text{mes } M_{n-1}} \underset{n\to\infty}{\to} e^{-1}\right\} = 1.$$

I. Kovalenko

SUB CODE: MA ENCL: 00

Card 3/3

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, A.S., kand.tekhn.nauk; KONDRAT'YEV, A.D.; ZYBIN, Yu.P., doktor tekhn.nauk, prof.

Reviews and bibliography. Kozh.-obuv.prom. 6 no.11:29-33 N '64. (MIRA 18:4)

1. Direktor izdatel'stva "Legkaya industriya" (for Kondrat'yev).

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

[illegible], A.F., kand.tekhn.nauk; ROZENBLYUM, Ya.Gr., inzh.

Improving the technique of the cementing method for sole attachment. Kozh.-obuv.prom. 7 no.3:13-16 Mr '65. (MIRA 18:10)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

FASON, E. (Bukharest); SHVARTS, B. (Bukharest); SHNEYDER, V. (Bukharest)

Blood penetration into the cerebral ventricles. Zhur. nevr. i psikh. 64 no.2:212-218 '64. (MIRA 17:5)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, Boris Aronovich; LIPKINA, Vera Arkad'yevna; SEGAL', Solomon Grigor'yevich; BARANOVSKIY, Boris Konstantinovich; FURSOV, V.A., otvetstvennyy redaktor; LIPKINA, V.A., redaktor; LEDNEVA, N.V., tekhnicheskiy redaktor

[New radiobroadcasting apparatus; a collection of papers] Tekhnika sviazi: Novaia radioveshchatel'naia apparatura; informatsionnyi sbornik. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1956. 108 p. (MLRA 10:1)

1. Russia (1923- U.S.S.R.) Ministerstvo svyazi. Tekhnicheskoye upravleniye.
(Radio--Transmitters and transmission)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

AID P - 4392

Subject : USSR/Radio

Card 1/1 Pub. 89 - 1/11

Author : Shvarts, B., Kand. Tech. Sci., Stalin Prize Winner

Title : Instruments used in studio equipment

Periodical : Radio, 3, 20-23, Mr 1956

Abstract : A detailed description of the standard broadcasting studio equipment of the TASO-1 type is given. Five diagrams.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

12. СЕКЦИЯ ЭЛЕКТРОННОЙ МИКРОСКОПИИ

Руководитель секции А. А. Лебедев

12 июня

(с 10 до 16 часов)

П. А. Стоянов,
В. В. Поляков

Электронный микроскоп УЭМВ-100

А. И. Кабанов,
Ю. М. Кушнир

Универсальный электростатический анализатор энергии на 75 кв и некоторые вопросы его применения

И. М. Попов

Электронный микроскоп-электронограф с ускоряющим напряжением 400 кв и перспективы использования электронов повышенных скоростей для исследования структуры вещества

Н. Г. Степанов

О возможности применения электронного микроскопа для исследования объектов в атмосфере газа и в жидком состоянии

12 июня

(с 18 до 22 часов)

З. В. Берестнева

Использование электронной микроскопии для исследования коллоидных систем и высокомолекулярных соединений

Ю. А. Скаков

Электронно-микроскопическое исследование структурных несовершенств в металлах и сплавах

13. СЕКЦИЯ РАДИОВЕЩАНИЯ, ЭЛЕКТРОАКУСТИКИ И ЗВУКОЗАПИСИ

Руководитель И. Е. Горон

9 июня

(с 10 до 16 часов)

Б. А. Шапиро

Способы повышения устойчивости работы систем усиления речи

Г. С. Гемпель

Исследование распределения по времени мгновенных значений стационарных сигналов

report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORiE), Moscow, 8-12 June. 1959

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SIVA..ES, . A.

SIVA..ES, . A. "On changes in the labyrinth functions after firear injuries to the skull", (Report to the Scientific Session of the Kha arovsk Medical Institute, May, 1947), Sbornik nauch. trudov Khabar. voyen. gospitalya, III, Kha arovsk, 19.., p. 103-11.

So: U-4393, 19 August 53, (Letopis 'Zhurnal 'nykh Statey', No. 22, 19.9/.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

FA 14/49T87

USSR/Medicine - Otorhinolaryngology Jul/Aug 48
Medicine - Antibiotics

"Account of the Far Eastern Conference of Civilian and Military Otorhinolaryngologists," Prof B. A. Shvarts, Khabarovsk, 3½ pp

"Vest Oto-Rino-Laringol" No 4

Conference held in Khabarovsk 15-18 November 47. Papers include: "History of Development and State of ENT Service in Khabarovsk Kray," "Anatomy of Nasopharynx in Adults and Children," "Diagnostic Significance of X-Rays of the Temporal Bone in Indications for Surgical Treatment of Purulent

14/49T87

USSR/Medicine - Otorhinolaryngology, Jul/Aug 48
(Contd)

Otitis," "Plastic Surgery for Some ENT Diseases by Academician Filatov's Method." Special session devoted to use of antibiotics.

14/49T87

SHVARTS, B. A., PROF

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, B. A.

37676 O primenenii organicheskogo stekla "pleksoglas" v otorinolaringologii
vestnik otorinolaringologii, 1949, No. 6, s. 58-61

So. Letopis' Zhurnal'nykh Statey, Vol. 47, 1949

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS B. A.

3643. SHVARTS B. A. Ear, Nose and Throat Clin. of med. Inst., Habarovsk. * Surgical treatment of cerebral hernias (Russian text) VESTN.CTO-RINO-LARING. 1953, 3 (15-20) Illus. 3

There are naso-frontal, naso-ethmoidal, naso-orbital and intranasal cephaleceles. The author used the intracranial approach with plastic covering either with autoplastic material or with plexiglass. In the last 5 yr. 11 cases were treated. One of them died after the operation, of meningitis. Pražic - Zagreb (XI,8)

SO: Excerpta Medica, Section VIII, Vol 7, No 9

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, B.A.; GLUBOKOVA, P.D.; MIROSHNIKOVA, Ye.Z.; BIRYUZOVA, A.M.

Penicillin therapy in otorhinolaryngology. Vest.oto-rin. 19 no.6:92 N-D '57 (MIRA 11:3)

1. Iz kliniki bolezney ukha, gorla i nosa (zav.-prof. B.A. Shvarts) Khabarovskogo meditsinskogo instituta.
(PENICILLIN) (OTORHINOLARYNGOLOGY)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, B.A., prof.

Preoperative and postoperative care for patients with malignant neoplasms of the otorhinolaryngological organs. Med.sestra 18 no.6:40-46 Je '59. (MIRA 12:8)

1. Iz kafedry bolezney ukha, gorla i nosa Vitebskogo meditsinskogo instituta.
(OTORHINOLARYNGOLOGY) (CANCER)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, Boris Abramovich, prof.; BAYDER, A.A., red.; KUZ'MINA, N.S., tekhn. red.

[Malignant neoplasms of the otorhinolaryngological organs] Zlokachestvennye novoobrazovaniia lororazovaniia lororganov. Moskva, Medgiz, 1961. 354 p. (MIRA 15:7)
(EAR--CANCER) (NOSE--CANCER) (THROAT--CANCER)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

Spectroscopic determination of admixture of nickel in cobalt. S. M. Chernobrov and [redacted]. Shvarts. Zavodskaya Lab. 16, 1505-6 (1950).

Detn. with av. absolute error of 8% in the range 0.09-0.11% Ni 3134-Co 2996.5 and Ni 3134-Co3145. The usually low levels of Fe and Cu do not interfer. G.M.K.

Immediate source clipping

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, D. M.

"Electronic Levels of Free Radicals and Molecules Having Conjugate Double Bonds." Sub 12 Mar 51, Moscow Inst of Fine Chemical Technology imeni M. V. Lomonosov.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 680, 9 May 55

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, B. N.

USSR/Atomic and Molecular Physics - Physics of the Molecule D-2

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 666

Author : Shvarts, B.N.
Inst :
Title : Expression of Orbital Integrals in Terms of Atomic Integrals in an Improved Method of Molecular Orbits.

Orig Pub : Uch. zap. Brestsk. gos. ped. in-ta, 1956, vyp. 1, 63-65

Abstract : A simplified method is developed for expressing the orbital integrals in the improved method of molecular orbits (Goeppert-Mayer M., Sklar A., Chemical Physics, 1938, 6, 645) in terms of atomic integrals. The method is illustrated with an example of the radical of vinyl methyl. It can be applied to molecules of all symmetries and all numbers of π electrons.

Card 1/1

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS - B.N.

Electronic levels of free radicals. B. N. Shvarts and M. E. Dyatkina (A. S. Pushkin State Pedagog. Inst., Brest). *Zhur. Fiz. Khim.* 30, 442-82(1956).—The electronic levels of phenylmethyl were calcd. by the valency bond and mol. orbital methods. The presence of an unpaired π-electron in the free radical conjugated bond system is responsible for the strong bathochromic effect, which offers an explanation for the appearance of color in the colorless aryl-substituted ethanes upon their dissocn. into free radicals. The electronic terms of vinylmethyl, divinylmethyl and trivinylmethyl were calcd. by both quantum chem. methods. The calcns. have confirmed the experimentally observed rule of a shift in absorption toward the longer wave lengths on enlarging the conjugated bond system. The unpaired π-electrons in the conjugated bond system cause considerably greater bathochromic effect than an increase in the no. of conjugated bonds.

W. M. Sternberg

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

L 17694-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4/Pa-4 RPL RM

ACCESSION NR: AP4049222 S/0201/64/000/003/0086/0090

AUTHOR: Shvarts, B. N.

TITLE: Investigation of cyanoethylene molecules by the molecular orbital method

SOURCE: AN BSSR. Izvestiya. Seriya fiziko-tekhnicheskikh nauk, no. 3, 1964, 86-90

TOPIC TAGS: cyanoethylation, molecular orbital method, conjugation, ethylene bond

ABSTRACT: The simplest molecular orbital method is used to calculate the occupied and low lying levels of the unoccupied molecular orbitals, the orders of the bonds, π-electron charges in the atoms, and the indices of the free valences of tetracyanoethylene molecules and all other cyan-substituted ethylenes. Two variants of calculations were made with two different sets of empirical parameters.

Card 1/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

L 17694-65

ACCESSION NR: AP4049222

It is shown that as the CN groups accumulate in the molecules the conjugation energy per π electron increases, and the order of the ethylene bond decreases. It is suggested that the substitution of CN groups in tri- and tetracyanoethylene is connected with a lower order of the ethylene bond. "The author thanks Prof. D. A. Bochvar, N. P. Gambaran, and M. I. Rybinskaya for critical remarks during the review of this work at INEAS AN SSSR." Orig. art. has: 2 figures, 2 tables and 1 formula.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: OC

NR REF SOV: 001

OTHER: 008

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, B.N.

Conjugation energy of radicals with nonalternating rings. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.3:121-122 '62. (MIRA 18:4)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

[illegible], N.N.

Conjugated systems with heteroatoms. Zhur. fiz. khim. 38 no.6: 1591-1594 Je '64. (MIRA 18:7)

1. Brestskiy gosudarstvennyy pedagogicheskiy institut imeni Pushkina.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, B.N.

Study of cyanoethylene molecules by the method of molecular orbitals. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.3:86-90 '64.
(MIRA 18:2)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

AUTHOR: Shvarts, D.A. and Zhadayeva, D.A. 121-2-15/20

TITLE: The use of gas carburising in the Gorki Milling Machine Manufacturing Plant. (Primeneniye gazovoy tsementatsii na Gor'kovskom Zavode Frezernykh Stankov)

PERIODICAL: "Stanki i Instrument" (Machine Tools and Tools) 1957, No.2, pp. 38 - 39 (U.S.S.R.)

ABSTRACT: Details of the gas carburising process are discussed including the properties of the carburising agents, the comparison between the different carburisers, methods of determining the depth and properties of the carburised layer and intensified fuel supplies to increase the rate of carburisation, the analysis of the exhaust gas as a measure of the carburising operation. Criticisms of existing Soviet carburising furnace designs are made. Methods of protection of surfaces against carburising are discussed. After many tests a paste is recommended consisting of liquid glass, potassium chromate, K_2CrO_4 potash (K_2CO_3) soda (Na_2CO_3), marshallite and ground white fire-resisting clay. A method of preparation is given. There are 2 graphs and 2 tables.

AVAILABLE:

1/1

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, D.A., inzh.; TSVETKOVA, Ye.N., inzh.

Surface cracking during the hardening of 45 steel products.
Metalloved. i term. obr. met. no.1:54-56 Ja '63. (MIRA 16:2)

1. Gor'kovskiy zavod frezernykh stankov.
(Steel--Hardening) (Thermal stresses)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

CHERVINSKIY, Petr Leont'yevich; SHVARTS, D.M., otvetstvennyy red.; SAVIN, M.M., red. izd-va; KOROVENKOVA, Z.A., tekhn.red.; MADEINSKAYA, A.A., tekhn.red.

[Album of vertical shafts and shaft bottoms in coal mines] Al'bom okolostvol'nykh dvorov i vertikal'nykh stvolov ugol'nykh shakht. Moskva, Ugletekhizdat, 1957. 10 p. and 89 diagr. (MIRA 11:4)
(Shaft sinking)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS,
~~SHWARTZ,~~ D. M.

PA 37/49T101

Oct 48

USSR/Metals
Cast Iron
Bronze

"Study of the Antifrictional Properties of TS-1 Cast Iron, OF-10-1 and OTsS-6-6-3 Bronzes," Yu. V. Vozinskiy, D. M. Shwartz, Engineers, 2 3/4 pp

"Stanki i Instrument" No 10

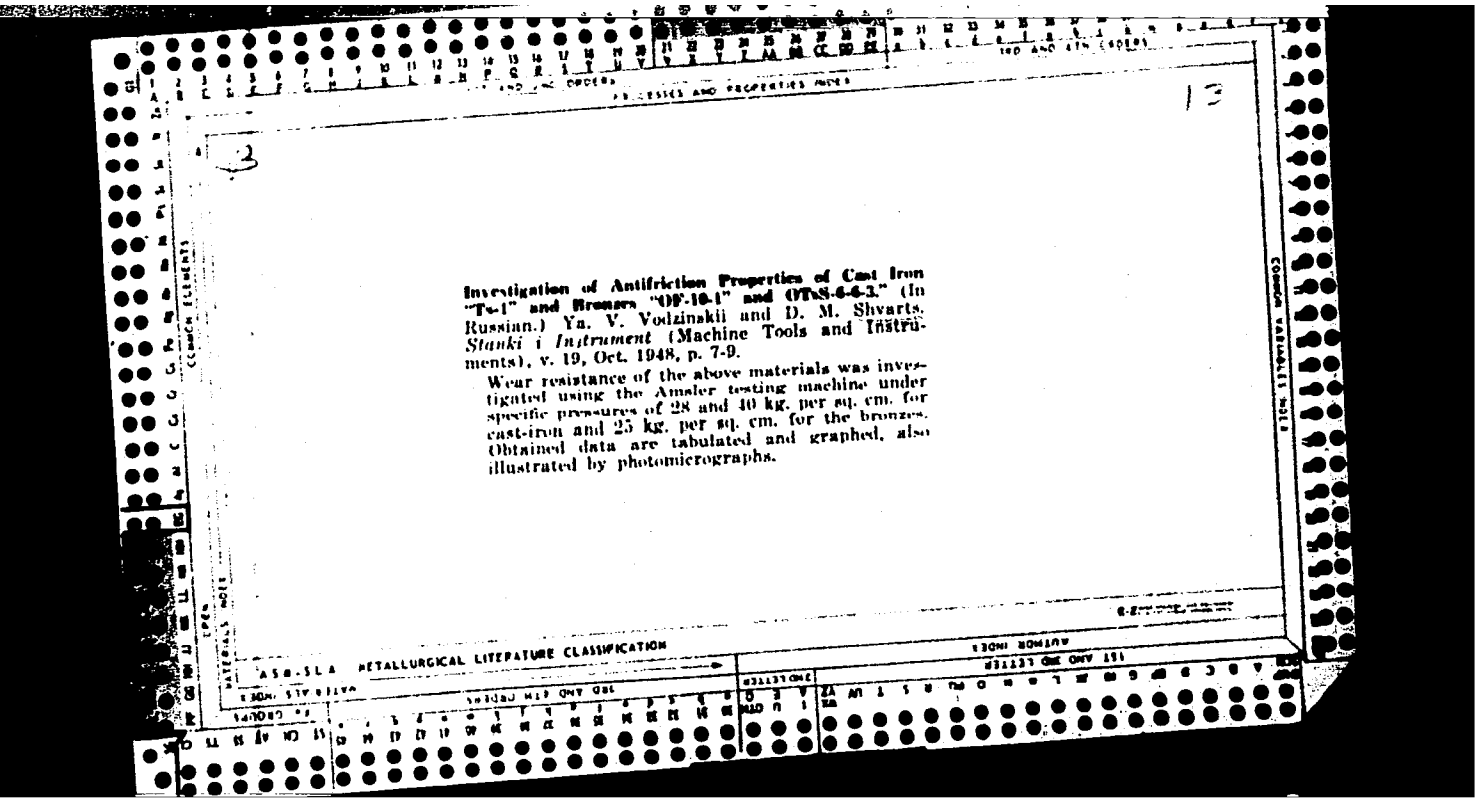
Describes specimens, including photographs of microstructure. Tabulates and plots results. Data on wear agrees with previous papers. Discusses effect of loading and hardness. Includes five photographs, sketch, three graphs, and three tables

37/49T101

[redacted]

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6



Investigation of Antifriction Properties of Cast Iron "Te-1" and Bronzes "OF-10-1" and OTsS-6-6-3. (In Russian.) Ya. V. Volzinskii and D. M. Shvarts. *Stanki i Instrument* (Machine Tools and Instruments), v. 19, Oct. 1948, p. 7-9.

Wear resistance of the above materials was investigated using the Amsler testing machine under specific pressures of 28 and 40 kg. per sq. cm. for cast-iron and 25 kg. per sq. cm. for the bronzes. Obtained data are tabulated and graphed, also illustrated by photomicrographs.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, D. M.

USSR/Metals - Spectrum Analysis Dec 50

"Determination of Nickel Admixtures in Cobalt by Spectral Analysis," S. M. Chernobrov, D. M. Shvarts, Inst of Nickel, Cobalt and Tin Ind

"Zavod Lab" No 12, pp 1505, 1506

Used anal of substances in powder state to det small amts of Ni in Co. Method excludes localization of Ni, which usually happens when ordinary metal specimens are used, and facilitates prepn of stds. Single detn, including preliminary chem treatment, takes 2-3 hrs. Av relative error is ± 8%.

182T95

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

USSR/ Chemistry - Quantitative analysis.

Card 1/1 Pub. 43 - 62/97

Authors : Shvarts, D. M., and Nilova, I. S.

Title : Spectral analysis of highly-pure cobalt

Periodical : Izv. AN SSSR. Ser. fiz. 18/2, 280-281, Mar-Apr 1954

Abstract : A method was developed for quantitative determination of twelve different admixtures in highly-pure Co. The method is analogous to the analysis of Ni according to GOST (State Standard) 6012-51. The results obtained by means of the new spectral analysis method are tabulated. Table.

Institution : The "GIPRONIKEL'" Institute

Submitted : .....

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

USSR/Chemistry - Spectral analysis

Card 1/1 Pub. 43 - 97/97

Authors : Shvarts, D. M.

Title : Quantitative spectral analysis of admixtures in highly-pure nickel

Periodical : Izv. AN SSSR. Ser. fiz. 18/2, 299-300, Mar-Apr 1954

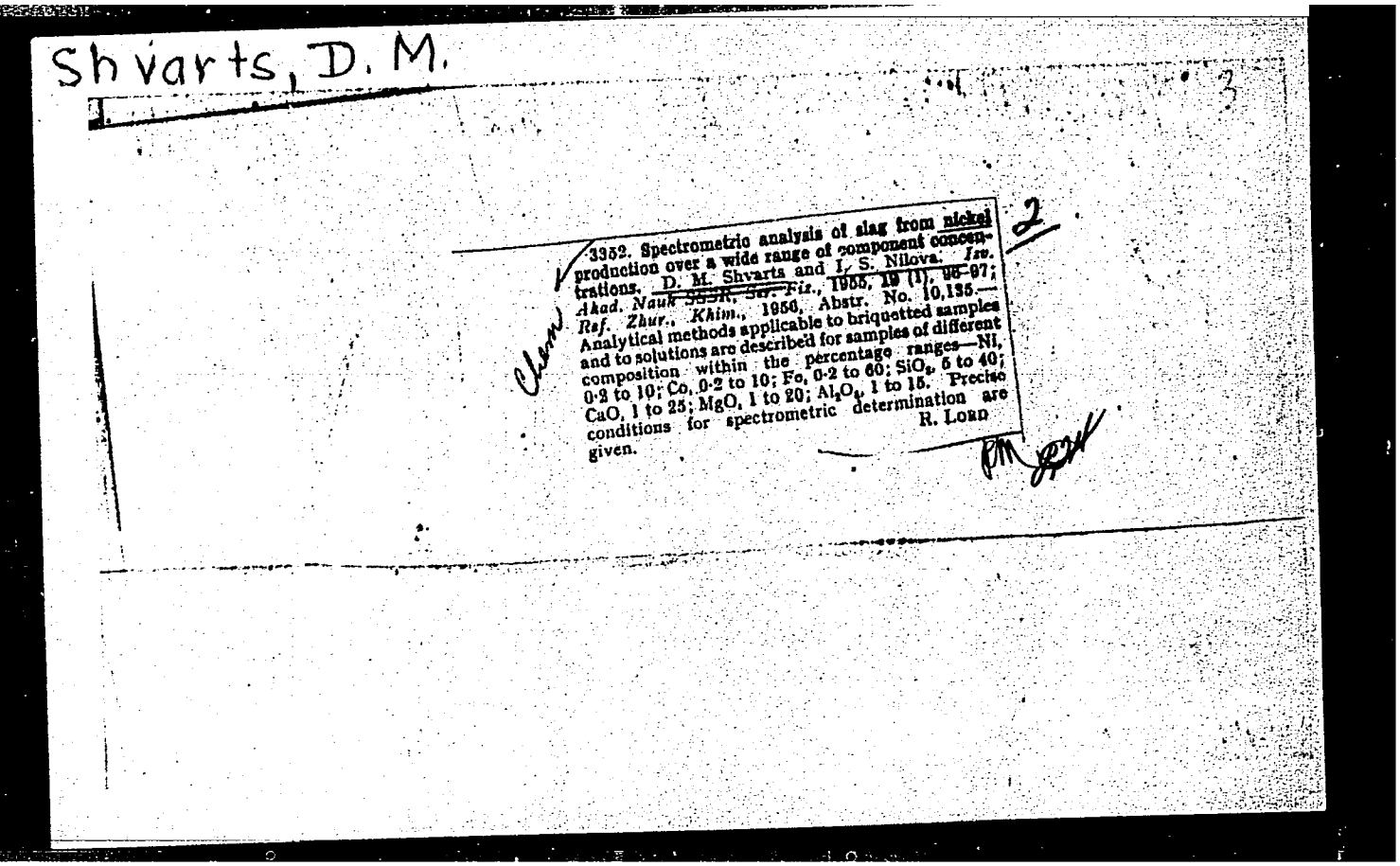
Abstract : A comparatively simple method was developed for spectral analysis of Ni for its contents of Cd, As, Zn, Bi, Sn, Sb, Pb, Fe, Mn, Mg, Cu, Co and Si at concentrations ranging from 0.0005 - 0.0008%.

Institution : The "GIPRONIKEL" Institute

Submitted : .....

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6



Shvarts, D. M.

3352. Spectrometric analysis of slag from nickel production over a wide range of component concentrations. D. M. Shvarts and I. S. Nilova. *Izv. Akad. Nauk SSSR, Ser. Fiz.*, 1955, 19 (1), 95-97; *Ref. Zhur., Khim.*, 1956, Abstr. No. 10,135.—Analytical methods applicable to briquetted samples and to solutions are described for samples of different composition within the percentage ranges—Ni, 0·2 to 10; Co, 0·2 to 10; Fe, 0·2 to 60; SiO_2, 5 to 40; CaO, 1 to 25; MgO, 1 to 20; Al_2O_3, 1 to 15. Precise conditions for spectrometric determination are given.

R. Lord

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, D.M.; FISHER, Yu.V.

Device for automatic registering of spectra. Zav.lab.23 no.2:246-248 '57. (MIRA 10:3)

1. Institut "Gipronikel'".
(Electric instruments) (Spectrum analysis)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

Shvarts, D.M

AUTHORS: Shvarts, D.M., Kaporskiy, L.N. 32-11-17/60

TITLE: Spectral Analysis of Highly Pure Zinc by Means of Vacuum Sublimation (Spektral'nyy analiz tsinka vysokoy chistoty s primeneniyem vakuumnoy sublimatsii)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 11, pp.1309-1313 (USSR)

ABSTRACT: In the introduction to this paper the problem of the preparation of small contents of copper, tin, bismuth, antimony and lead in highly pure zinc is dealt with. (Cadmium is determined without any preparation). The chapter dealing with the method of preparing samples says that in this case physical-chemical methods are used for the purpose of determining the traces of elements. The reactions of the solutions cannot find much use in this case. For the purpose of spectral analysis it is better to utilize the differences between the volatility properties of each of the components of the sample. Therefore, a combination of spectral analysis and the evaporation method has recently been given preference, especially as the tension of the vapors of zinc and its other components may vary considerably. In order to accelerate sublimation and also as a protection against oxidation the samples are fitted in a vacuum in ampules made of refractory

Card 1/3

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Spectral Analysis of Highly Pure Zinc by Means of Vacuum Sublimation

glass while being prepared. (The process is described). In the chapter dealing with the selection of the method of preparation it is said that, at a temperature of 500° C sublimation is satisfactory. In order to carry out quantitative spectral analysis the degrees of concentration of individual components must first be determined, which problem was attempted to be solved by means of the radioactive indicator isotopes Fe^{59}, Co^{60}, $Sn^{113-123}$ and Sb^{124}. As stated in this paper it may be assumed that the behavior of the secondary components concerned is similar to that of the corresponding isotopes. In the chapter dealing with carrying out the analysis, the process of analysis is described. For this purpose two groups of standard gauged samples were used: The zinc alloys with various components and the powder patterns of the zinc oxide. For the preparation of the samples a special furnace system is recommended. As may be seen from the scheme given this system consists of the following parts: Two pyrometers, one vacuummeter, and one manometer, which are connected with a symmetrically arranged double furnace system. The vacuum pump, which is located in the center, produces the vacuum (by means of two faucets) in the ampules with the samples, which are in two furnaces located on the opposite side, which are each provided with a thermostat and an autotransformer. Each of the ampules with sample is provided with

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Spectral Analysis of Highly Pure Zinc by Means of Vacuum Sublimation

(internal) water cooling. In the chapter dealing with obtained spectrograms and graphic graduation the process of spectroanalysis is described. The data concerned are: electrode current - 250 - 300 A; light DC arc for 400 V; spectrograph "ISP-28" with three-lens condenser. (Inside diameter 0.01 mm). In conclusion it is said that errors are rather considerable (20-25%) but that they do not impair practical aims. With respect to cadmium it is said that it cannot be separated from zinc by preparation, and that therefore it is determined separately by utilizing its high sensitivity (2288.018 Å). There are 2 figures, 2 tables, and 15 references, 11 of which are Slavic.

ASSOCIATION: "Gipronikel' "Institute (Institut "Gipronikel' ")

AVAILABLE: Library of Congress

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SHVARTS, D.M.; PORTNOVA, V.V.

Spectrum analysis of high-purity lead. Fiz.sbor. no.4:493-497 '58. (MIRA 12:5)

1. Institut "Gipronikel'," Leningrad.
(Lead--Spectra)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

32-24-6-20/44

AUTHORS: Shvarts, D.M., Poromova, V.V.

TITLE: The Spectral Analysis of Tin of Especial Purity by Previous Enrichment (Spektral'nyy analiz olova osoboy chistoty s primeneniyem predvaritel'nogo obogashcheniya)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 6, pp 731-734 (USSR)

ABSTRACT: The senior laboratory assistant V.M.Davydova assisted in carrying out this work. As the enrichment methods known from publications, especially concentration by evaporation cannot be used with success for the enrichment of tin, stannic chloride is taken because of its high degree of volatility which differs considerably from that of the chlorides of other admixtures. Chlorination is carried out in such a manner that the crushed sample is placed into carbon tetrachlorids and chlorine is introduced. Separation of the chlorides obtained is carried out with the aid of active carbon, the quality "acid type B" (GOST 4453-48) being used; it was found in this connection that the presence of iron in the carbon disturbs the determination of antimony. Four etalon groups were prepared for the analysis according to a special method. After chlorination and enrichment by active carbon the latter is spectrographically

Card 1/2

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The Spectral Analysis of Tin of Especial Purity by Previous Enrichment

32-24-6-20/44

investigated with the adsorbed admixtures, for which purpose a spectrograph ISP-22 with a length of arc of 3 mm was used and measurements were carried out according to the calibration diagram of the etalons. This method makes it possible to determine admixtures of up to 1.10^{-4}%, the average error found amounting to 19-25%; it is pointed out that the error limits found are relatively high, but that the method is suited for the control of tin of high purity. There are 2 figures, 2 tables, and 7 references, 6 of which are Soviet.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut "Gipronikel'" (State Scientific Research and Planning Institute "Gipronikel'")

1. Tin--Spectra 2. Chlorides--Separation 3. Carbon--Performance
4. Antimony--Determination

Card 2/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

5 (2), 24 (7)

AUTHORS: Shvarts, D. M., Granfel'd, A. I. SOV/32-25-8-15/44

TITLE: Chemical-spectrum Analysis Method for the Determination of Cobalt, Tin, and Zinc in Nickel of a Higher Degree of Purity

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 8, pp 946 - 948 (USSR)

ABSTRACT: The determination of impurities (I) in the purest nickel-metal types is made by spectroscopy according to GOST 6012-57 with a sensitivity (S) of $1 - 3 \cdot 10^{-4}$% (Refs 1,2). This sensitivity is inadequate in the testing of metals for certain purposes and it should be at least $1 \cdot 10^{-5}$%. This scope can be achieved by a previous enrichment of the (I). The method mentioned in the title was developed according to V. P. Zhivopistsev's statement (Refs 6,7) that diantipyryl methane forms difficultly soluble complex compounds in acid media in the presence of rhodanides with elements like Co, Zn, Sn, Cu, Bi, etc. As nickel does not react with diantipyryl methane nickel can be used for the (I) mentioned in the title as a collector and the final analysis can be conducted according to the standard method GOST 6012-57. The article contains descriptions of the procedure of enrichment

Card 1/2

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of the (I) and the subsequent analysis. The completeness of the extraction of the (I) at the enrichment was tested on standard samples of Ni (Table 1) and the analysis results were compared on Ni-samples according to the described enrichment method and the direct method (Table 2). The sensitivity of the method described is $5 \cdot 10^{-6}$ - $1 \cdot 10^{-5}$% for the mentioned (I). There are 2 tables and 8 Soviet references.

ASSOCIATION: Institut "Gipronikel'" ("Gipronikel'" Institute)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

5·(2), 24 (7) SOV/32-25-8-16/44

AUTHORS: Shvarts, D. M., Nilova, I. S.

TITLE: Spectrum Analysis of Thallium of High Degree of Purity

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 8, pp 949 - 952 (USSR)

ABSTRACT: M. A. Sterlina participated in the present investigation. When producing thallium (I) of high degree of purity for the production of semi-conductors and in electrical engineering, a method for the determination of impurities (Im) (Ag, In, Cu, Bi, Co, Ni, Fe, Cd, Mg, Mn, Al, Pb, Sn, and Sb) in quantities of 10^{-4} - 10^{-5}% is needed. Two methods were developed: a direct method in which thallium nitrate (II) is being used as sample (sensitivity (S) 10^{-3} - 10^{-4}% of the (Im)), and a method of enriching the (Im) ((S) up to 10^{-5}%). The (II) for the first-mentioned method is obtained by solving the metallic (I) in HNO_3 and subsequently evaporating the HNO_3. The equipment used in this process is described by D. M. Shvarts and L. N. Kaporskiy (Ref 2). The use of (II) makes direct spectrum analysis (SA) with synthetic standard samples (SS) possible and

Card 1/3

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due to the ready volatility of (II) the enrichment can be effected before the analysis. As no (I) of high degree purity was at disposal for the preparation of the (SS), the (Im) were prepared by distillation of (II) at 350° in a device (Ref 2). The composition of the (SS) was determined by graphical spectrum correction. The article contains description of one analysis, the applied analytical lines and concentration ranges (Table 1). A spectrograph ISP-22 and photographic films "spectrals of the type II" ((S) 16 GOST units) were used. The second method is based on the enrichment of (Im) in a vacuum equipment (Fig 3), in which the test-powder is placed (in the shape of (II)) into the crater of the carbon electrode, heated in a small Ni-Cr oven with $5 \cdot 10^{-2}$ mm Hg which causes (II) to evaporate. By this practically complete separation of the basic substance from (Im), a decrease of the (S) of the analysis was achieved which gave the possibility of determining even small quantities of Co, Ni, and Sb. This determination could not be achieved by the direct

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method (Table 2). There are 3 figures, 4 tables, and 1 Soviet reference.

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SHVARTS, D.M.; NILOVA, I.S.

Spectrum analysis of high purity nickel. Trudy Kom. anal. khim. 12: 366-376 '60. (MIRA 13:8)
(Nickel--Analysis) (Spectrum analysis)

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86236
S/032/60/026/008/027/046/XX
B020/B052

5.5200 1153, 1273, 1282

AUTHOR: Shvarts, D. M.

TITLE: Analysis of High-purity Nickel by Using the Carbonyl Process for the Concentration of Impurity Traces

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 8, pp. 966-971

TEXT: Since some branches of industry (especially the production of semiconductors) make high demands on the purity of nickel (highest concentration of impurities admissible: $1 \cdot 10^{-5}$ to $1 \cdot 10^{-7}$ %), the chemical determination of such low concentrations is impossible. Not even direct spectroscopic methods (Ref. 1) are sufficiently sensitive; the impurities first have to be concentrated. Reactions between the solid sample and a reactive gas which can easily be purified and whose gaseous reaction product can be easily removed from the reaction zone are suited best. The method of analyzing high-purity nickel as suggested in Ref. 2, is only applicable for the determination of four impurities, but does not solve the problem. Nickel can be separated from the majority of the elements of the periodic

Card 1/3

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8623 8

Analysis of High-purity Nickel by Using the Carbonyl Process for the Concentration of Impurity Traces

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B020/B052

system by the carbonylation reaction. By reaction with CO, nickel is quantitatively transformed into nickel tetracarbonyl which is removed from the reaction zone. The impurities which do not form volatile compounds with carbon monoxide, are spectroscopically determined. The volume of the system shrinks considerably in the reaction of nickel with CO. Rate and intensity of the reaction course increase with the partial pressure of CO which inhibits the thermal dissociation of the forming carbonyl. After the removal of nickel the weight of the concentrated residue increases accordingly (Fig. 1). The change in the weight of the concentrate during the reaction is given in Fig. 2. Activity and purity of the metal surface have a decisive influence on the reaction course of the carbonylation. With rising temperature the rate of the carbonyl formation increases up to a certain limit after which the dissociation of carbonyl predominates. The sample can be obtained either by the mechanical production of filings or the development of nickel monoxide and its reduction into active nickel powder in the hydrogen current at 290 - 300°. Fig. 3 shows the device for the concentration of the nickel samples by high-pressure carbonylation.

Card 2/3

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86238

Analysis of High-purity Nickel by Using the Carbonyl Process for the Concentration of Impurity Traces

S/032/60/026/009/027/046/XX
B020/B052

Table 1 gives experimental data which prove that the impurities are practically quantitatively concentrated in the residue. A certain weight inconstancy of the concentrates is explained by the fact that nickel is not completely removed from the sample. In the above preparation of the sample this does not affect the correctness of the analysis (Table 2). For the elimination of the variation in the weight of the concentrates, the latter are diluted with pure nickel monoxide. The method was checked according to ГОСТ 6012-57 (GOST 6012-57). Table 3 shows the analysis results of high-purity nickel samples produced by electrolysis and vacuum extraction. The method developed, largely solves the problem of controlling high-purity nickel for its impurities. It also warrants the accuracy of the analysis (Table 4) required by the technical conditions, and is of sufficient accuracy. Laboratory assistant V. M. Davydova and Ye. T. Kazakov collaborated. There are 3 figures, 4 tables, and 6 Soviet references.

ASSOCIATION: Proyektnyy i nauchno-issledovatel'skiy institut "Gipronikel'" (Planning and Design Scientific Research Institute "Gipronikel'")

Card 3/3

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S/032/62/028/002/013/037
B125/B104

AUTHOR: Shvarts, D. M.

TITLE: Production and use of synthetic standards for the spectral analysis of some high-purity metals

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 2, 1962, 178 - 181

TEXT: The method developed by the author for producing synthetic oxide powder standards is based on the thermal decomposition of the salts of some nonvolatile oxy acids. Mixtures of the oxides of the components to be determined and of the basic substance are used as standards. The oxides will remain stable for a long time and ensure a most sensitive analysis of the arc-excited spectrum. In the case of fused oxides with metallic conductivity, the spectrum can be excited in a globular arc, and the fused oxide is used as one of the electrodes. Oxide powder standards are suited for the analysis of pure metals, various inorganic samples, luminophores, semiconductor alloys, and many other objects. The techniques of oxide powder standard production for the spectral analysis of Ni, Co, Zn, Sn, and Ti are outlined as follows: Nickel standards are produced by the dissolution

Card 1/3

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B125/B104

of high-purity carbonyl nickel in concentrated nitric acid. The standard solutions of the impurity elements are produced by dissolving weighed portions of pure Fe, Mg, Cu, Al, Pb, Cd, Bi, Co, and Mn in nitric acid, Sn and Sb in sulfuric acid, and are evaporated in opaque quartz vessels. Nickelous oxide freed from nitric oxides by heat treatment and ground in a drum powder mill is used as standard. The initial standards are nickel samples, the composition of which is most carefully determined. Cobaltic oxide standard powder is prepared from specially purified electrolytic cobalt by the method used for nickelous oxide powder. Two batches of cobalt standards were prepared for the analysis of high-purity cobalt and cobalt of all the types specified by ГОСТ123-57 (GOST123-57). When producing zinc samples, the backing is separated after vacuum deposition and the nonvolatile impurities are concentrated in the oxide residue. The impurities to be determined are added as nitric solutions to the zinc oxide standard obtained by thermal decomposition of zinc nitrate. The SnO_2 samples obtained by oxidizing metallic tin by nitric acid with addition of impurity elements are used only as initial samples for the analysis of cast standards after the solutions have been subjected to heat treatment. After adding impurities to thallium samples the solvent is evaporated, and the dried nitrate is

Card 2/3

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SHVARTS, D.M.

Preparation of high purity nickel and cobalt samples for spectral analysis. Zav.lab. 28 no.6:684-685 '62. (MIRA 15:5)

1. Gosudarstvennyy proyektnyy i nauchno-issledovatel'skiy institut nikelevo-kobal'tovoy i olovyannoy promyshlennosti.
(Nickel--Spectra) (Cobalt--Spectra)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, E.G.

USSR/Pharmacology and Toxicology - Toxicology V.

Abs Jour : Ref Zhur - Biol., No 2, 1959, 9333

Author : Shvarts, E.G.

Inst : Leningrad State Institute for the Advanced Training of Physicians, Chair of Forensic Medicine

Title : Fatal Blue Vitriol Poisoning

Orig Pub : Sb. nauchn. rabot Kafedry sudebn. med. Leningr. gos. in-t usoversh. vrachey, 1957, vyp. 10, 247-249

Abstract : A case of the acute poisoning of an infant who was administered an enema consisting of water containing blue vitriol is described. Following administration of the enema, a diarrhea ensued that was of a bloody tinge before death, which occurred after 24 hours. At the postmortem, a diffuse necrosis of the mucosa of the intestine, edema of the lungs, and degeneration of the liver and

Card 1/2

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DYNINA, M.F.; KAZANTSEV, L.I.; SHVARTS, E.G.

Poisoning with pachycarpine. Sud.-med. ekspert. 4 no.4:35-38 O-N-D '61. (MIRA 14:12)

1. Leningradskoye gorodskoye byuro sudebnomeditsinskoy ekspertizy (nachal'nik - kand.med.nauk M.A.Dal') i kafedra sudebnoy meditsiny (zav. - prof. A.P.Kurdyumov) I Leningradskogo meditsinskogo instituta imeni akademika I.P.Pavlova.
(PACHYCARPINE--TOXICOLOGY)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

GISIN, P.G.; SHVARTS, E.Ya.

Laboratory and pilot plant units for airless spraying of paint materials. Lakokras.mat.i ikh prim. no.1:53-55 '61.
(MIRA 14:4)

1. TSentral'naya nauchno-issledovatel'skaya laboratoriya Vsesoyuznoy proizvodstvennoy kontory "Lakokraspokrytiye."
(Painting, Industrial)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SOV/48-23-1-27/36

24(7)

AUTHORS: Mihul,C., Ruscior, C., Pop, V., Shvarts, F. R., Redulescu, G. A.

TITLE: Fluorescence Spectra of Motor Fuels (Spektry fluorestsentsii motorinov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 1, pp 122 - 125 (USSR)

ABSTRACT: This paper describes the results obtained by an investigation carried out by the authors (Romania) of the fluorescence of motor fuels extracted from Romanian mineral oil. Four substances $A_{1\ special}$, A_1, A_3, and C were investigated, the properties of which are given by a table. The spectra (Fig) of the first three samples differ only little from one another. The λ - values of the maxima are given. With sample C matters are somewhat different. The most important maxima are shifted into the long wave range. Also the microphotographs of solutions of the four samples in ethyl ether of various concentrations are given by a figure. For the purpose of determining the substances contained in the motor fuels, comparative pictures were made of the absorption spectra of naphthalene,

Card 1/2

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phenanthrene and anthracene (Fig 3). The results obtained by these investigations show that the formation of motor oil spectra is mostly due to naphthalene, anthracene, and phenanthrene or to other similar luminescent compounds. In the presence of many luminescent compounds the comparative investigation method is not very well suited. Therefore, the luminescence spectra of a fraction of the motor fuel C were, in addition, investigated according to 10 percent of volume. The first four fractions differ only little from one another and correspond to the naphthalene-, phenanthrene- and anthracene spectra. In the case of others, intensities are shifted to a considerable extent into the long-wave range. Individual maxima and their variation are mentioned individually. On the basis of the fluorescence spectra of the fractions, the authors arrive at the conclusion that the motor fuels naphthalene, phenanthrene and anthracene investigated by them contain quantities which decrease in this order. There are 4 figures, 1 table, and 7 references, 4 of which are Soviet.

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ARONOV, Samuil Grigor'yevich; BAUTIN, Ivan Grigor'yevich; VOLKOVA, Zoya Andreyevna; VOLOSHIN, Arkhip Il'ich; VIROZUB, Yevgeniy Vladimirovich; GABAY, Lev Izrailevich, DIDENKO, Viktor Yefimovich; ZASHKVARA, Vasiliy Grigor'yevich; IVANOV, Pavel Aleksandrovich, KUSTOV, Boris Iosifovich [deceased]; KOTOV, Ivan Konstantinovich; KOTKIN, Aleksandr Matveyevich; KOMAROVSKIY, Maksim Semenovich; LEYTES, Viktor Abramovich, MOROZ, Mikhail Yakovlevich; NIKOLAYEV, Dmitriy Dmitriyevich. OBUKHOVSKIY Yakov Mironovich; RODSHTEYN, Pavel Moiseyevich; SAPOZHNIKOV, Yakov Yudovich, SENICHENKO, Sergey Yefimovich; TOPORKOV, Vasiliy Yakovlevich; CHERMNYKH Mikhail Sergeyevich; CHERKASSKAYA, Esfir' Ionovna, SHVARTS, Semen Aronovich; SHERMAN, Mikhail Yakovlevich; SHVARTS, Grigoriy Aleksandrovich; LIBERMAN, S.S., redaktor izdatel'stva; ANDREYEV, S.P., tekhnicheskiy redaktor

[Producing blast furnace coke of uniform quality; a collection of articles for the dissemination of advanced practices] Poluchenie domennogo koksa postoiannogo kachestva; sbornik statei po obmenu peredovym opytom. Khar'kov, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 300 p. (MLRA 9:8)
(Coke industry)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, G., inzh.

Metal bonding. Svar. proizv. no.2:39-42 F '60. (MIRA 13:6)

1. TSentral'nyy institut svarki, g.Galle, Germanskaya Demokraticheskaya Respublika.
(Germany, East--Adhesives) (Metals)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS G

Credit

Development of the credit system in connection with U.S.S.R. economy. Vop. ekon No. 5, 1952.

Monthly List of Russian Accessions, Library of Congress, August 1952. Unclassified.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, G. A.; LISITSYAN, N. S.

Credit.

"Organization and planning of credit in the USSR." M. M. Usoskin. Reviewed by N. S. Lisitsyan, G. A. Shvarts. Sov. kniga, No. 8, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, G.; SHCHUROV, B.

Loans for temporary needs. Den.i kred. 14 no.2:15-21 F '56.
(MLRA 9:5)

(Credit)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, G.

The economic basis of clearing payments. Den.i kred.14 no.4:19-26 Ap '56. (MLRA 9:7)
(Clearinghouse)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, G.

On the theory of credit in the U.S.S.R. Den.i kred. 14 no.10: 15-24 O '56. (MLRA 9:11)

(Credit)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, G.

"State Bank of the U.S.S.R.;" brief study for the 40th anniversary of the October. Reviewed by G. Shvarts. Den. i kred. 16 no.1:82-95 Ja '58. (MIRA 11:3)

(Banks and banking)

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SHVARTS, G.

Payment circulation and noncash settlements. Den. i kred. 16 no.12:47-56 D '58. (MIRA 11:12)
(Payment)

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SHVARTS, G.

Payment turnover and checks. Den. i kred. 17 no.1:19-20 Ja '59.
(MIRA 12:4)

(Payment)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, G.

"Clearing payments in the national economy of the U.S.S.R. " by A.Kazantsev. Reviewed by G.Shvarts. Den.i kred. 18 no.1: 86-91 Ja '60. (MIRA 13:1)
(Payment) (Kazantsev, A.)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, G.

Credit practice. Den.i kred. 18 no.2:9-19 F '60.
(MIRA 13:1)

(Credit)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, G.

Economic bases of negotiable instruments. Den. i kred. 19 no.12:14-22 D '61. (MIRA 14:12)
(Negotiable instruments)
(Payment)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001550320018-6

SHVARTS, G.

Developing the turnover of payment. Den.i kred. 19 no.10:27-34 O '61. (MIRA 14:10)
(Banks and banking) (Payment)

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